

## AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method comprising:  
monitoring a node associated with a contended lock;  
identifying a processor waiting for the contended lock;  
putting the processor to sleep until an event occurs;  
relinquishing resources of the sleeping processor; ~~and~~  
forming larger resources for non-sleeping processors to utilize while the processor  
sleeps, the larger resources including the relinquished resources; and  
waking up the processor when the event occurs, wherein the waking up of the  
processor includes inactivating the monitoring of the node, and  
re-acquiring the relinquished resources for the awakened processor to  
utilize.
2. (Previously Presented) The method of claim 1, wherein the monitoring of the  
node comprises monitoring a lock address corresponding to the contended lock by  
executing a monitor instruction to activate the monitoring of the node.
3. (Previously Presented) The method of claim 1, further comprises executing an  
instruction to put the processor to sleep until the event occurs.
4. (Currently Amended) The method of claim 1, ~~further comprises: waking up the~~  
~~processor when the event occurs,~~ wherein the event comprises the contended lock  
becoming available[[:]], and the processor acquiring the available lock.
5. (Previously Presented) The method of claim 1, wherein the processor is next in a  
queue to acquire the contended lock.
- 6-7. (Cancelled)

8. (Previously Presented) The method of claim 1, wherein the relinquishing of the resources comprises:
- relinquishing of a plurality of registers in a register pool;
  - relinquishing of a plurality of instruction queue entries in an instruction queue;
  - relinquishing of a plurality of store buffer entries in a store buffer; and
  - relinquishing of a plurality of re-order buffer entries in a re-order buffer.
- 9-12. (Cancelled)
13. (Currently Amended) A processor, comprising:
- a monitor to
    - monitor a node associated with a contended lock, and
    - identify a processor waiting for the contended lock;
  - logic to
    - put the processor to sleep until an event has occurred, and
    - wake up the logical processor when the event occurs, wherein the waking up comprises inactivating the monitoring of the node, and re-acquiring the relinquished resources for the awakened processor to utilize; and
  - a resource manager to
    - relinquish resources of the sleeping processor, and
    - form larger resources for non-sleeping processors to utilize while the processor sleeps, the larger resources including the relinquished resources.
14. (Original) The processor of claim 13, further comprising detection logic to detect the occurrence of the event, wherein the event comprises a designated event

including the contended lock becoming available.

15-16. (Cancelled)

17. (Previously Presented) The processor of claim 13, wherein the resource manager is further to:

relinquish a plurality of registers in a register pool;

relinquish a plurality of instruction queue entries in an instruction queue;

relinquish a plurality of store buffer entries in a store buffer; and

relinquish a plurality of re-order buffer entries in a re-order buffer.

18. (Currently Amended) A system comprising:

a storage medium; and

a processor coupled with the storage medium, the processor having

a monitor to

monitor a node associated with a contended lock, and

identify a processor waiting for the contended lock;

logic to

put the processor to sleep until an event has occurred, and

wake up the logical processor when the event occurs, wherein the waking

up comprises inactivating the monitoring of the node, and re-

acquiring the relinquished resources for the awakened processor to

utilize; and

a resource manager to

relinquish resources of the sleeping processor, and

form larger resources for non-sleeping processors to utilize while the

processor sleeps, the larger resources including the relinquished

resources.

19. (Original) The system of claim 18, further comprising detection logic to detect the occurrence of the event, wherein the event comprises a designated event including the contended lock becoming available.
- 20-21. (Cancelled)
22. (Currently Amended) A tangible machine-readable medium having instructions which, when executed by a machine, cause the machine to:
  - monitor a node associated with a contended lock;
  - identify a processor waiting for the contended lock;
  - put the processor to sleep until an event occurs;
  - relinquish resources of the sleeping processor; ~~and~~
  - form larger resources for non-sleeping processors to utilize while the processor sleeps, the larger resources including the relinquished resources; and
  - wake up the processor when the event occurs, wherein the waking up of the processor includes inactivating the monitoring of the node, and
  - re-acquiring the relinquished resources for the awakened processor to utilize.
23. (Currently Amended) The tangible machine-readable medium of claim 22, wherein the instructions when further executed by the machine, cause the machine to monitor the node to further cause the machine to monitor a lock address corresponding to the contended lock by executing a monitor instruction to activate the monitoring of the node.
24. (Cancelled)
25. (Currently Amended) The tangible machine-readable medium of claim 22,

~~wherein the instructions when further executed, cause the machine to: wake up~~  
~~the processor when the event occurs,~~ wherein the event comprises the contended  
lock becoming available[[;]], and ~~allow~~ allowing the processor to acquire the  
available lock.

Claims 26-30 (Cancelled)